

PORTS OF LOWER MISSISSIPPI (Ports of New Orleans, South Louisiana, and Baton Rouge)

Geographic Location

The megaports of New Orleans, South Louisiana, and Baton Rouge line 172 miles of both banks of the lower Mississippi River. They have been grouped together in this report because of their location and similar geographic attributes, as well as similar ship traffic and cargo. The Port of New Orleans extends 33.7 miles, from river mile 81.2 AHP to mile 114.9 AHP. The Port of South Louisiana occupies the 53.6-mile stretch of between New Orleans and Baton Rouge from river mile 114.9 to 168.5. The Port of Greater Baton Rouge runs 84.5 miles from river mile 168.5 in Donaldsonville, LA, to the Exxon refinery at mile 253.

The Port of Greater Baton Rouge includes the northernmost point (mile 233) to where depths are maintained to 45 feet. Navigational depth is 12 feet north of mile 233. The Port of Greater Baton Rouge and Port of New Orleans also have side channels and canals that are maintained at various navigation depths. South of New Orleans, navigational depth is 36 feet.

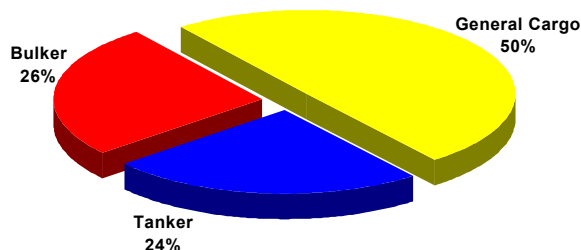
Ranking, Tonnage, and Ship Type

Annual U.S. port tonnage statistics consistently rank the Ports of New Orleans, South Louisiana, and Baton Rouge sixth, first, and fourth, respectively. The 1996 breakdown of ship types and tonnage are presented in the table to the right. The Port of New Orleans led South Louisiana and Baton Rouge in numbers of ships across all the three ship types, and also led the other two ports in 1996 tanker tonnage. The Port of South Louisiana moved 68 percent of the total bulker tonnage in 1996, more than triple the bulker tonnage at either New Orleans or Baton Rouge. South Louisiana also handled the most general cargo tonnage among the three ports. Collectively, the three ports make up the world's largest port district and move 20 percent of all U.S. foreign waterborne cargo. They are also major transshipment ports for cargo moving among domestic inland and coastal ports.

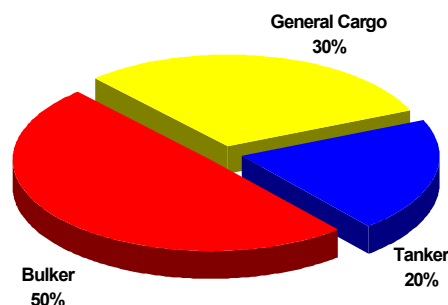
1996 Ship Types and Tonnage for Ports of Baton Rouge, New Orleans, and South Louisiana		
Ship Type & Port	Ships	Tonnage
Bulker		
Baton Rouge	112	32,433,580
South Louisiana	116	119,805,523
New Orleans	141	23,015,747
Bulker Subtotal	369	175,254,850
General Cargo		
Baton Rouge	176	32,274,597
South Louisiana	187	45,151,205
New Orleans	348	29,759,902
General Cargo Subtotal	711	107,185,704
Tanker		
Baton Rouge	77	16,301,076
South Louisiana	94	24,857,836
New Orleans	177	30,950,821
Tanker Subtotal	348	72,109,733
3-Port Total	1428	354,550,287

Primary inbound cargoes at the Port of Greater Baton Rouge are petroleum, molasses, rail, steel coils, and chemicals. Outbound cargoes are grain, forest products, chemicals, coke, petroleum products, pipe, and sugar. The Port of Greater Baton Rouge also operates midstream-mooring buoys where bulk cargoes such as coal, grain, and coke are handled. Floating cranes also operate at the midstream buoys to move waterborne cargo between ships and barges traveling to and from upstream ports.

Ports of Lower Mississippi 1996 Ship Distribution



Ports of Lower Mississippi Tonnage Distribution



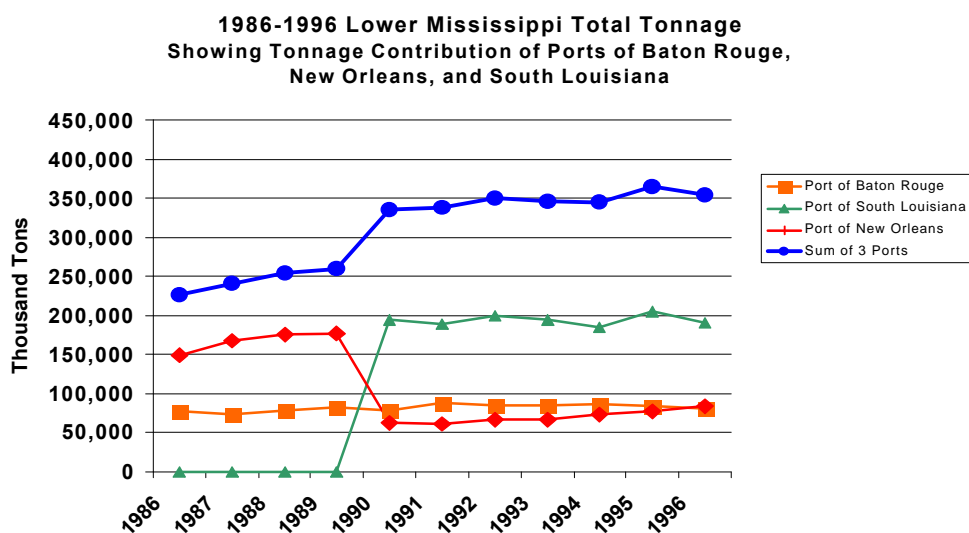
The primary inbound cargoes for at the Port of South Louisiana are crude oil (77 percent), aluminum ores (13 percent), and petroleum products (6 percent). Corn (41 percent), animal feeds (16 percent), oil seeds (16 percent), and wheat (14 percent) dominate the port exports. The Port handles half of all U.S. exported grain and grain byproducts. Other major exports are lime, timber, sugar cane, cotton, rice, fertilizers, and resins.

At the Port of New Orleans, principal inbound cargo includes steel, crude and refined petroleum products, rubber, plywood, coffee, cotton, machinery, and foodstuff. Outbound cargo includes forest products, steel, foodstuff, chemicals, cotton, and rubber. During 1996, poultry exports increased by 14.3 percent to 123,010 tons, and exports of paper and paperboard increased by 16 percent to 353,259 tons. At the France Road public container terminals (Berths 5 and 6), the port authority reports that it handled 50,681 containers totaling 826,764 tons in 1996. Of this container tonnage, 257,836 tons were imported and 568,928 tons were exported.

Tonnage for the 1986-1996 period of the three ports are shown in the following graph. The increase in tonnage from zero to 194 million tons in 1990 at the Port at South Louisiana, (and the corresponding drop of 115 million tons at the Port of New Orleans), are attributable to redefinition of the port jurisdictions as specified in the Louisiana State Constitution.

Facilities

Important features common among the Ports of New Orleans, South Louisiana, and Greater Baton Rouge are (1) deep water, (2) proximity to other waterways and large population centers, and (3) modern facilities that can move many cargoes efficiently and economically. The ports are located at the convergence of the Mississippi River (part of the Inland Waterways System) and the Gulf Intercoastal Waterway, which links the ports to commerce moving between north Florida



and south Texas ports. Three major railroads (Kansas City Southern Lines, Union Pacific, and Illinois Central) serve the ports, as well as all of the major steamship carriers, numerous barge lines, and national truck carriers.

Each of the three ports has specialized facilities for different cargoes. The Port of New Orleans has over 22 million square feet of cargo-handling area with wharves and terminals spread over 22 miles of waterfront along the Mississippi River, Industrial Canal, and Mississippi River-Gulf Outlet. Foreign Trade Zone No. 2, located adjacent to and north of the Napoleon Avenue Terminal, occupies 19 acres of space of which approximately 50 percent is covered.

Port of New Orleans started construction in 1991 on a five-year, \$215-million capital improvement program for improving breakbulk, neobulk, and containerized cargo at its three “super terminals” on the Mississippi. When the Mississippi River Terminal Complex was completed in 1996 it tied together two existing wharves in the port and created two miles of unbroken wharf—the world’s longest contiguous riverfront quay. The Nashville-Napoleon and Louisiana Avenue terminals are multi-purpose terminals handling a broad range of cargo. The third, the Harmony Street-First Street Terminal, was developed for

steel and neobulk freight. Most container traffic is handled at the France Road Container Terminal along the Industrial Canal.

The Port of South Louisiana serves as a landlord to eight separate terminals. With the exception of Globalplex Intermodal Terminal, all terminals are operated by independent companies. The Globalplex Intermodal Terminal, in Reserve, St. John the Baptist Parish, is located at former 205-acre sugar refinery. The intermodal facility has deep-water berthing, a barge dock with a conveyor system for handling dry bulk cargo, open storage and warehousing, light manufacturing operations and a foreign trade zone.

Three of the eight terminals within the port are grain elevators, that have storage and handling facilities for servicing rail, barge, and ocean-going vessel traffic. The remaining four other major facilities of the Port of South Louisiana are bulk loading facilities.

- The Occidental Chemical Dock, in Taft, St. Charles Parish, is adjacent to a 500-acre site plant that produces 1800 tons of chlorine and 2056 tons of sodium hydroxide daily, from which it distributes bulk liquid by truck, rail, tank car, ship, and barge.
- Occidental Electrochemical Corporation, in Convent, St. James Parish, operates barge and ship docks and a 12.4 million-gallon chemical storage terminal. The 700-acre Occidental Electrochemical plant produces 2.6 million pounds of ethylene dichloride and significant amounts of chlorine and sodium hydroxide per day.
- The Cargill Inc. K-2 facility, in Convent, St. James Parish, is a midstream facility that exchanges primarily grains and feedstock cargoes between river barges and oceangoing vessels. Annual cargoes at this terminal total 950,000 tons soybean meal, 800,000 tons corn gluten feed pellets, and 600,000 of other commodities.
- The Hall Buck Marine Gramercy Bulk Terminal, in Gramercy, St. James Parish, transfers reduction-grade calcined alumina from Kaiser Aluminum's Gramercy plant by railcar to barges. The facility has a design capacity of 470 tons per hour and transfers around 850,000 tons per year.

Other facilities on Port of South Louisiana property are a woodchip mill with 900,000 tons/yr capacity, a new molasses refinery, and a \$6 million petroleum coke plant.

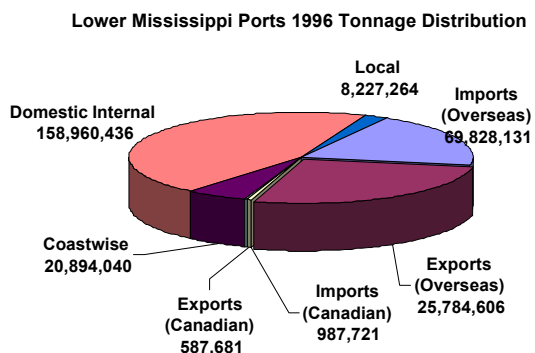
Like New Orleans and South Louisiana, the Port of Greater Baton Rouge is comprised of a variety of cargo and commodity handling facilities for vessels and barges of all sizes. Dock No. 1, built in 1954 and Dock No. 2, built in 1964, have 45-foot depth berthing along 3,000 continuous feet of wharf. Cargoes at both these facilities include forest and paper products, heavy lifts, steel, bagged goods, and other general cargo. Storage capacity for in-transit goods includes 525,000 square feet of covered transit sheds and 50,000 square feet of open shipside storage.

Baton Rouge grain facilities include a 7.5-million bushel grain elevator that handles soybeans, soft red wheat, oats, corn, and other grain products. There is also a flourmill at the port's deep-water complex. The elevator handles 25 percent of Louisiana's grain production. The Molasses Terminal, operated by Westway Trading Corporation, is an 8-acre terminal serving primarily the molasses industry, with approximately 250,000 tons of molasses transferred annually. With a liquid storage capacity of 16.3 million gallons, and both rail and truck access, the Westway terminal is one of the largest molasses terminals in the world. The terminal also handles 50,000 tons of specialty chemicals annually. Westway is primarily an import port, receiving liquid molasses from Australia, Colombia, Guatemala, Mexico, Nicaragua, Venezuela, and domestic sources. Other major facilities at the Port of Baton Rouge include:

- Petroleum Fuel Terminal, with bulk-petroleum storage capacity of 1,215,000 barrels for No. 2 through No. 6 fuel oils.
- Inland Rivers Marine Terminal, on the Gulf Intracoastal Waterway and handling intermodal cargo of various types.
- RoRo Cargo Ramp, on the Intracoastal Waterway and handling project cargoes such as extra-heavy or extra-wide reactors, boilers, tanks, and cranes.
- Burnside Terminal, a public facility with an 877-foot ship wharf and can berth Panamax and post-Panamax vessels, for dry bulk materials, such as bauxite, coal, alloys, ores, coke, fertilizers and minerals.

Ballast Water Issues in the Three Ports

The uptake and discharge of foreign ballast water in the Mississippi River and adjacent waterways of the megaports of New Orleans, South Louisiana, and Baton Rouge is a function of (1) maintaining maneuverability through the waterways, (2) adjusting for amount and distribution of cargo, and (3) negotiating channel depths and bridges. Channel depth range from 12 feet to 45 feet among the three ports.



Vessels in the overseas export trade are, as in other ports, assumed the primary contributors of foreign and open-ocean ballast waters. Overseas and Canadian exports at the three Lower Mississippi megaports accounted for over 95 million tons (27 percent of the total annual cargo).

The total ballast water released from ocean-going vessels in the three ports during 1996 is estimated at 26.6 million metric tons. This equates to 7.0 billion gallons per year, or approximately 13,400 gallons per minute. The large majority of this discharged ballast water is attributed to bulker traffic.

Future Plans for the Ports

The Mississippi River channel from the Gulf of Mexico is to be deepened to a depth of 44.5 feet. Other proposals call for deepening the channel to 49 feet, and eventually to 54 feet as far as Baton Rouge.

How these deepening projects will affect the amount of ballast water discharged in the waterways cannot yet be predicted. Major factors include:

- Future ballast management regulations and regulatory compliance
- Proportion of bulkers in further traffic increases
- Proportion of vessels in dedicated export routes (entering U.S. under ballast).

Lower Mississippi 1996 Ballast Water Releases by Ship Type
(Ports of New Orleans, South Louisiana, and Baton Rouge)
(data are metric tons; multiply by 263.5 to calculate gallons)

